

What is claimed is:

1. A linkage mechanism for a hair removal appliance having a head (1)  
5 carrying at least one hair removal member and mounted for rocking about a  
virtual axis, said linkage mechanism being mountable on an appliance body  
(2) and comprising:  
a pair of spaced support arms (4,5) for pivotable attachment to the  
head (1) at first and second pivot axes (11,12), said first and second pivot  
10 axes being spaced apart by a first distance;  
a first transverse link member (6) pivotably mounted on said body (2)  
for rotation about a third axis (17) and being pivotably attached to each of  
said support arms (4,5), at fourth and fifth pivot axes (15,16) spaced apart by  
a second distance less than the first distance; and  
15 second and third transverse link members (7,9) pivotably mounted on  
the body (2) at respective first ends thereof and being pivotably attached at  
respective second ends thereof to respective ones of said support arms (4,5)  
at sixth and seventh pivot axes (13,14) spaced apart by a third distance, said  
first, second, third, fourth, fifth, sixth and seventh axes being mutually  
20 parallel.
2. A mechanism according to Claim 1, wherein said third distance is less  
than said first distance.
- 25 3. A mechanism according to Claim 2, wherein said third distance is less  
than said second distance.
4. A mechanism according to Claim 2, wherein said second distance is  
less than said third distance.

5. A linkage mechanism for a hair removal appliance having a head (1) carrying at least one hair removal member and mounted for rocking about a virtual axis generated by said linkage mechanism, said linkage mechanism being mountable on an appliance body (2) and comprising:

5 a pair of spaced support arms (4,5) pivotally connectable to the head (1) at first and second pivot axes (11,12);

a first common link member (6) pivotably mounted to said body (2) for rotation about a third axis (17) and being pivotably attached to each of said support arms (4,5), at fourth and fifth pivot axes (15,16); and

10 second and third transverse link members (7,9) pivotably mounted on the body (2) at respective first ends thereof and being pivotably attached at respective second ends thereof to respective ones of said support arms (4,5) at sixth and seventh pivot axes (13,14).

15 6. A mechanism according to Claim 5, wherein the first, the fourth and the sixth axes (11, 15, 13) define a first set of three pivot axes and the second, the fifth and the seventh axes (12, 5, 14) I define a second set of three pivot axes, and wherein the three pivot axes within at least one set of said first and second sets of pivot axes are co-planar.

20

7. A mechanism according to Claim 1, wherein said respective first ends of the second and third transverse link members (7,9) are pivotally mounted on the body at eighth and ninth pivot axes (8,10) which are spaced apart, and parallel to said first and second axes.

25

8. A mechanism according to Claim 7, wherein a plane perpendicular to said parallel axes intersects said third, eighth and ninth axes (17,8,10) at spaced points forming an isosceles triangle.

30

9. A mechanism according to Claim 7, wherein said eighth and ninth axes (8,10) are colinear.

10. A mechanism according to Claim 7 or 9, wherein said third, eighth and ninth axes (17,8,10) and said virtual axis are parallel .

5 11. A mechanism according to Claim 1 wherein the distance between said first and sixth axes (11,13) equals the distance between said second and seventh axes (12,14).

10 12. A mechanism according to any one of Claim 1 wherein the distance between said first and sixth axes (11,13) is greater than the distance between said second and seventh axes (12,14).

15 13. A mechanism according to Claim 1 wherein the distance between said first and fourth axes (11,15) equals the distance between said second and fifth axes (12,16).

20 14. A mechanism according to Claim 13 wherein the distance between said first and sixth axes (11,13) is less than the distance between said first and fourth axes (11,15) and the distance between said first and sixth axes (11,13) equals the distance between said second and seventh axes (12,14).

25 15. A mechanism according to Claim 13 wherein the distance between said first and sixth axes (11,13) is greater than the distance between said first and fourth axes (11,15) and the distance between said first and sixth axes (11,13) equals the distance between said second and seventh axes (12,14).

30 16. A mechanism according to Claim 13 wherein the distance between said first and sixth axes (11,13) is greater than the distance between said first and fourth axes (11,15), the distance between said second and seventh axes (12,14) is less than the distance between said second and fifth axes

(12,16) and the distance between said first and sixth axes (11,13) is greater than the distance between said second and seventh axes (12,14).

17. A mechanism according to Claim 1, wherein the first, second and third  
5 transverse link members (6,7,9) are pivotably attached to said support arms by respective film hinges.

18. A mechanism according to Claim 1, wherein the second and third  
10 transverse link members are attached to the shaver body by respective film hinges (8,10).

19. A mechanism according to Claim 1, wherein the second and third transverse links are moveable relative to one another.

15 20. A mechanism according to Claim 1, wherein the support arms (4,5) are not parallel to one another.

21. A mechanism according to Claim 1, wherein the first transverse link member (6) is configured as a bell crank.

20

22. A linkage mechanism for a hair removal appliance having a head (1) mounted for rocking about a virtual axis generated by said linkage mechanism, said linkage mechanism being mountable on an appliance body (2) and comprising:

25 a head (1) carrying at least one hair removal member;  
first and second spaced support arms (4,5) pivotally connected to the head (1) at first and second pivot axes (11,12);  
a first common link member (6) pivotably mounted to said body (2) for rotation about a third axis (17) and being pivotably attached to each of said  
30 support arms (4,5), at fourth and fifth pivot axes (15,16); and

at least one stabilizing link member (7) pivotably mounted on the body (2) at a first end thereof and being pivotably attached at a second end thereof to a single one of said first and second said support arms (4,5) at a sixth pivot axis (13).

5

23. A linkage mechanism according to claim 22, further comprising a second stabilizing link member (9) pivotably mounted on the body (2) at a first end thereof and being pivotably attached at a second end thereof to said other of said first and second said support arms (4, 5) at a seventh pivot axis (14).

10

24. A hair removal apparatus, comprising:

the linkage mechanism according to any one of the preceding claims;

and

15 the head (1) carrying the at least one hair removal member supported on said linkage mechanism mounted on said body (2) for rocking about said virtual rocking axis.

25. A hair removal apparatus according to Claim 24, wherein said at least one hair removal member is a cutter unit for performing shaving.

20

26. A hair removal apparatus according to Claim 24, wherein said at least one hair removal member is an epilation head for plucking hair.

25 27. A method of mounting a component such as a head (1) carrying at least one hair removal member mounted, for rocking about a virtual axis, the method comprising the steps of:

pivotably attaching a pair of spaced support arms (4,5) to the head (1) at first and second pivot axes (11,12), said first and second pivot axes being spaced apart by a first distance;

30

pivotably mounting a first transverse link member (6) on a body (2) for rotation about a third axis (17) and pivotably attaching the first link member (6) to each of said support arms (4,5), at fourth and fifth pivot axes (15,16) spaced apart by a second distance less than the first distance; and

- 5           pivotably mounting second and third transverse link members (7,9) on the body (2) at respective second ends thereof and pivotably attaching the second and third link members at respective second ends thereof to respective ones of said support arms (4,5) at sixth and seventh pivot axes (13,14) spaced apart by a third distance, said first, second, third, fourth, fifth,  
10   sixth and seventh axes being mutually parallel.